



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/002,121	12/05/2001	Tokuro Ozawa	111017	2109
25944	7590	09/30/2005	EXAMINER	
OLIFF & BERRIDGE, PLC P.O. BOX 19928 ALEXANDRIA, VA 22320			SHENG, TOM V	
			ART UNIT	PAPER NUMBER
			2677	

DATE MAILED: 09/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/002,121	OZAWA ET AL.	
	Examiner	Art Unit	
	Tom V. Sheng	2677	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 July 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) 5,7-9 and 12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4,6,10 and 11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>7/17/2002</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Species I in the reply filed on 7/1/2005 is acknowledged. The traversal is on the ground(s) that the subject matter of all species is sufficiently related that a thorough search for the subject matter of any one species would encompass a search for the subject matter of the remaining species. This is not found persuasive because at least the writing permission signal DTWj of species II provides an additional control that requires special consideration and search.

The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1-4, 6, 10 and 11 are rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure, which is not enabling. As for claims 1 and 2, the inventive feature regarding each pixel having a plurality of bit memories and a self-rewritable memory, critical or essential to the practice of the invention, but not included in the claim(s) is not enabled by the disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976).

Referring to fig. 3 and page 11, paragraph 50 through page 13, paragraph 61 of specification, the applicants disclose the criticality of a self-rewritable memory, formed by means of TFT 1230 and inverters 1241, 1243, that works with each of a plurality of bit memories, formed by means of TFT (1211 ... 1216) and capacitor (C1 ... C6). Each of the plurality of bit memories corresponds to a specific bit of image data and thus corresponding subfield for grayscale display. Since the stored contents are not destroyed due to reading, the supply of gray scale data becomes unnecessary if there are no changes in the display contents, and resulting in simplified writing operation and reduced power consumption. The success of the invention relies on the coordination between a primary bit memory and a secondary self-rewritable memory, not just one memory for each bit as claimed. Claims 3, 4, 6, 10 and 11 are dependent on claim 2.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

5. Claims 1-4, 6, 10 and 11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As for claim 1, it is unclear which one of "memories that respectively store each bit", line 1 that "said memory", line 9, is referring to. Also, it is unclear whether "the read memory", line 14, is referring to above "said memory".

As for claim 2, it is unclear as to the meaning of "a memory that stores bits corresponding to a subfield from among said memories", lines 8-9, and "latches bits

Art Unit: 2677

stored in the memory selected", line 10. The reason being each subfield has only one corresponding bit that corresponds to a weight. Claims 3, 4, 6, 10 and 11 are dependent on claim 2.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Mase et al. (US 5,534,884) teach a liquid crystal display with low power consumption. The information being displayed is simultaneously stored in a first memory. Information desired to be displayed is stored in a second memory and compared with the content of the first memory to produce exclusive ORs thereof. The display panel is driven only when and where the information desired to be displayed is dissimilar to the information being displayed. Moreover, the first memory is rewritten with the dissimilar information as update.

Sato et al. (US 5,712,652) teach a liquid crystal display with low power consumption. This is achieved by using a digital pixel memory that maintains the data. Accordingly, when only a part of the displayed picture changes, only the data at the changing part are "rewritten", so that it is possible to not only reduce the data transfer rate and but also to markedly reduce the power consumption.

Okumura et al. (US 5,945,972) teach a display device includes a substrate, a plurality of pixels arranged in rows and columns on the substrate, and a plurality of signal lines for providing an image signal to the pixels on a column-by-column basis.

Art Unit: 2677

Each of the pixels comprises a plurality of memory elements for storing image signals sent over a corresponding one of the signal lines, a selector for selecting one of the memory elements, and a display element for displaying a dot at a brightness corresponding to an image signal stored in the selected memory elements. In other words, each memory element corresponds to a respective bit of the image signal. The display device further comprises a plurality of rewrite signal lines for providing rewrite signals to the plurality of pixels on a column-by-column basis, and each of the plurality of pixels further comprises rewrite direction means connected to receive a rewrite signal from a corresponding one of the plurality of rewrite signal lines, and the rewrite direction means may be arranged to direct the memory elements to rewrite their contents in response to the rewrite signals.

Yamazaki et al. (US 6,765,549) teach a display device capable of preventing a reduction of an electric charge stored in a gate electrode of an EL driver TFT, reduction due to a leak current of a switching TFT, and capable of preventing a reduction of the brightness of light emitted by an EL element. One region of a source region and a drain region of a switching TFT is connected to an input side of an SRAM, and an output side of the SRAM and a gate electrode of the EL driver TFT are connected. The SRAM stores an input digital data signal until the next digital data signal is input.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tom V. Sheng whose telephone number is (571) 272-7684. The examiner can normally be reached on 9:00am - 6:00pm.

Art Unit: 2677

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on (571) 272-7681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tom Sheng
September 26, 2005

Lun-Yi Lao
Primary Examiner

